

Claims

- [c1] 1. A man-portable sensor fusion system comprising:
- sensor unit having at least a first and second sensor arranged along a sensor axis;
- head adapting means for providing support to mount at least one selected device about a user's cranium; and,
- securing means attached to the sensor unit for mounting the sensor unit to the head adapter; the sensor unit being mounted above an ocular axis formed between a pair of eyes of the user when the sensor unit is attached to the head adapter element; the sensor axis when the sensor unit is secured to the user with the head adapter element is essentially perpendicular to the user's ocular axis.
- [c2] 2. The invention of claim 1 wherein the adapter element is a frame structure for wearing by the user.
- [c3] 3. The invention of claim 1 wherein the adapter element is a head covering for wearing by the user.
- [c4] 4. The invention of claim 1 wherein the adapter element is a ballistic helmet for wearing by the user.
- [c5] 5. The invention of claim 1 wherein the sensor unit is battery powered.
- [c6] 6. The invention of claim 5 wherein a battery holder element is attached to the head adapter element such that the battery holder is on an opposite side of the user's cranium to the sensor unit when being used by the user.

- [c7] 7. The invention of claim 1 wherein the sensor unit is adapted to transmit a desired signal for reception.
- [c8] 8. The invention of claim 1 wherein the sensor unit is adapted to compensate for parallax distortion between the plurality of sensors.
- [c9] 9. The invention of claim 1 wherein the securing means is adapted to permit tilting of the sensor unit.
- [c10] 10. The invention of claim 1 wherein the securing means is adapted to permit detachment of the sensor unit.
- [c11] 11. The invention of claim 1 further including a video means operably connected to the plurality of sensors for displaying an image.
- [c12] 12. The invention of claim 11 wherein a video unit attaches to the head adapter.
- [c13] 13. The invention of claim 12 wherein the video unit is detachable from the head adapter.
- [c14] 14. A man-portable sensor fusion system including a sensor unit of the type having at least a first and second sensor arranged along a sensor axis, the invention comprising:
- head adapting means for providing support to mount at least one selected device about a user's cranium; and,
- securing means attached to the sensor unit for mounting the sensor unit to the head adapter; the sensor unit being mounted above an ocular axis formed between a pair of eyes of the user when the sensor unit is attached to the head adapter element; the sensor axis when the sensor unit is secured to the user with the head adapter

element is essentially perpendicular to the user's ocular axis.

- [c15] 15. The invention of claim 14 wherein the adapter element is a frame structure for wearing by the user.
- [c16] 16. The invention of claim 14 wherein the adapter element is a head covering for wearing by the user.
- [c17] 17. The invention of claim 14 wherein the adapter element is a ballistic helmet for wearing by the user.
- [c18] 18. The invention of claim 14 wherein the sensor unit is battery powered.
- [c19] 19. The invention of claim 18 wherein a battery holder element is attached to the head adapter element such that the battery holder is on an opposite side of the user's cranium to the sensor unit when being used by the user.
- [c20] 20. The invention of claim 14 wherein the sensor unit is adapted to transmit a desired signal for reception.
- [c21] 21. The invention of claim 14 wherein the sensor unit is adapted to compensate for parallax distortion between the plurality of sensors.
- [c22] 22. The invention of claim 14 wherein the securing means is adapted to permit tilting of the sensor unit.
- [c23] 23. The invention of claim 14 wherein the securing means is adapted to permit detachment of the sensor unit.
- [c24] 24. The invention of claim 14 further including a video means operably connected to the plurality of sensors for displaying an image.

- [c25] 25. The invention of claim 24 wherein a video unit attaches to the head adapter.
- [c26] 26. The invention of claim 25 wherein the video unit is detachable from the head adapter.
- [c27] 27. A method for mounting a man-portable sensor fusion system including a sensor unit of the type having at least a first and second sensor arranged along a sensor axis, comprising the steps of:
- providing a head adapter element for providing support to mount at least one selected device about a user's cranium; and,
 - mounting the sensor unit to the head adapter; the sensor unit being mounted above an ocular axis formed between a pair of eyes of the user when the sensor unit is attached to the head adapter element; the sensor axis when the sensor unit is secured to the user with the head adapter element is essentially perpendicular to the user's ocular axis.
- [c28] 28. The method of claim 27 wherein the adapter element is a frame structure for wearing by the user.
- [c29] 29. The method of claim 27 wherein the adapter element is a head covering for wearing by the user.
- [c30] 30. The method of claim 27 wherein the adapter element is a ballistic helmet for wearing by the user.
- [c31] 31. The method of claim 27 wherein the sensor unit is battery powered.
- [c32] 32. The method of claim 31 wherein a battery holder element is attached

to the head adapter element such that the battery holder is on an opposite side of the user's cranium to the sensor unit when being used by the user.

[c33] 33. The method of claim 27 wherein the sensor unit is adapted to transmit a desired signal for reception.

[c34] 34. The method of claim 27 wherein the sensor unit is adapted to compensate for parallax distortion between the plurality of sensors.

[c35] 35. The method of claim 27 wherein the securing means is adapted to permit tilting of the sensor unit.

[c36] 36. The method of claim 27 wherein the securing means is adapted to permit detachment of the sensor unit.

[c37] 37. The method of claim 27 further including a video means operably connected to the plurality of sensors for displaying an image.

[c38] 38. The method of claim 37 wherein a video unit attaches to the head adapter.

[c39] 39. The method of claim 38 wherein the video unit is detachable from the head adapter.